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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,644	05/04/2001	Eric J. Horvitz	MS150906.1	1557

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EXAMINER

WONG, LESLIE

ART UNIT PAPER NUMBER

2177

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,644

Applicant(s)

HORVITZ ET AL.

Examiner

Leslie Wong

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1,2, 6-10, 13-15, 18-22, 25, and 26-29 are rejected under 35

U.S.C. 102(e) as being anticipated by **Beyda et al.** (U.S. Patent 6,148,294).

Regarding claims 1 and 25, **Beyda et al.** teaches a system, method, computer-readable medium for predicting a target file directory, comprising:

a). a component which analyzes probabilities and utilities associated with determining potential target directories for storing and accessing data (col. 1, line 66 – col. 2, line 8).

Regarding claims 2 and 28, **Beyda et al.** further teaches a component for building a subset of the potential target directories that are predicted to be the target directory (col. 6, line 60 – col. 7, line 4; col. 7, lines 17-26).

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Regarding claims 6, 18, and 29, **Beyda et al.** further teaches wherein the potential target directories are determined from at least one of a local computer system and a remote computer system (col. 7, lines 27-32).

Regarding claims 7 and 19, **Beyda et al.** further teaches wherein the probabilities are a function of recent and long-term file activity within a directory (col. 7, lines 53-62).

Regarding claims 8 and 20, **Beyda et al.** further teaches wherein the long term file activity is determined from a predetermined time horizon (col. 5, lines 12-29).

Regarding claims 9 and 21, **Beyda et al.** further teaches wherein the recent file activity is determined from frequency of access to a file (col. 6, line 60 – col. 7, line 4).

Regarding claims 10 and 22, **Beyda et al.** further teaches a background monitor to determine file access frequency (col. 7, lines 17-26).

Regarding claims 13-15 26, and 27, **Beyda et al.** further teaches a method for determining a potential target node for directory operations, comprising:

a). assigning probabilities and utilities to a plurality of potential target nodes (col. 5, lines 12-42; col. 2, lines 9-18);

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- b). determining an expected utility from the probabilities and utilities associated with the plurality of target nodes (col. 5, line 12 – col. 6, line 22); and
- c). displaying a candidate list of likely nodes to a user based upon the expected utility (col. 8, lines 14-16; col. 1, line 66 – col. 2, line 8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3,4, 5, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beyda et al.** (U.S. Patent 6,148,294) as applied to claims 1,2, 6-10, 13-15 18-22, 25, and 26-29 above, and further in view of **Ishizaki et al.** (U.S. Patent 5,752,217 B1).

Regarding claims 3 and 16, **Beyda et al.** does not explicitly teach a step wherein the utilities are functions of navigation costs associated with traversing from a displayed node from the directory to at least one of the potential target directories.

Ishizaki et al., however, teaches a step wherein the route costs are computed based on link information and connection information and a destination route is set based on a connection of links which has the least route cost (col. 2, lines 18-36).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the navigation costs associated with traversing from a displayed node from the directory to at least one of the potential target directories as doing so would improve the use of system resource and therefore increase system efficiency.

Regarding claim 4, **Beyda et al.** does not explicitly teach a step wherein expected utilities of candidate nodes to display from a directory structure are computed as functions of probabilities of target information being at a node, and the navigation costs associated with traversing from the node to at least one of the potential target directories.

Ishizaki et al., however, teaches a step wherein expected utilities of candidate nodes to display from a directory structure are computed as functions of probabilities of target information being at a node, and the navigation costs associated with traversing from the node to at least one of the potential target directories (col. 2, lines 18-36).

Regarding claims 5 and 17, **Beyda et al.** does not explicitly teach a step wherein the navigation costs are assigned by at least one of user selections and encoded (i.e., assign) within the system.

Ishizaki et al., however, teaches a step wherein select and compute a node to update route costs (claim 12 and col. 2, lines 18-36).

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It would have been obvious to one of ordinary skill in the art at the time of the invention was made to assign and store the navigation costs as this would enable later retrieval of information.

5. Claims 11, 12, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beyda et al.** (U.S. Patent 6,148,294) as applied to claims 1,2, 6-10, 13-15, 18-22, 25, and 26-29 above, and further in view of **Candan et al.** (U.S. Patent 6,549,896).

Regarding claims 11 and 23, **Beyda et al.** does not explicitly teach a list scan penalty for reducing probabilities associated with scanning lists within a directory.

Candan et al., however, teaches computing the probability that the random walk process will transition to each of the other web page by the assigned penalty value (col. 9, lines 9-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the feature of assigning a penalty associated with scanning a directory as this technique is widely use to calculate the navigation cost.

Regarding claims 12 and 24, **Beyda et al.** does not explicitly teach wherein the list scan penalty is determined as an exponential function that decreases as the number of elements on the list increases.

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Candan et al., however, teaches determining list scan penalty as an exponential function (col. 10, lines 12-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to allow determining list scan penalty as an exponential function as this technique is widely use to calculate the navigation cost.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Horvitz (US 2002/0087649)

Horvitz (U.S. Patent 6,067,565)

Horvitz (U.S. Patent 6,085,226)

Horvitz (U.S. Patent 6,182,133)

Faulkner (U.S. Patent 6,389,427)

Lamping et al. (U.S. Patent 6,370,538)

Thomson (U.S. Patent 5,276,874)

Inglett (U.S. Patent 5,905,900)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Wong whose telephone number is (703) 305-3018. The examiner can normally be reached on Monday to Friday 9:30am - 6:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Leslie Wong
Patent Examiner
Art Unit 2177

Lw
September 06, 2003



JEAN R. HOMERE
PRIMARY EXAMINER